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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,001	12/03/2001	Mohammed N. Islam	068069.0116	2948
7590 12/22/2005 Baker Botts L.L.P. 2001 Ross Avenue Dallas, TX 75201-2980			EXAMINER VU, THONG H	
			ART UNIT 2142	PAPER NUMBER
DATE MAILED: 12/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,001

Applicant(s)

ISLAM, MOHAMMED N.

Examiner

Thong H. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 58-66 and 68-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 58-66 and 68-91 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Claims 58-66,68-91 are pending.

Response to Arguments

2. Applicant's arguments, see pages 22-27, filed 11/22/05, with respect to the rejection(s) of claim(s) 58-66,68-91 under Arthur reference have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Acampora-Graves.

Claim Rejections - 35 USC § 112

3. Claims 58- 62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It was unclear, vague and indefinite to "the **substantially** similar sets of optical signals, **substantially** communicating, **substantially** completing tuning, **substantially** similar sets, **substantially** rejecting".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 58-66,68-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acampora et al [Acampora, 5,530,575] in view of Graves et al [Graves 2002/0191250 A1].

4. As per claim 58 Acampora discloses a method of routing optical signals, comprising:

communicating to a star switching fabric a plurality of optical signals each having a wavelength; communicating from the star switching fabric a plurality of **substantially** similar sets of the optical signals (i.e.: wavelength) [Acampora, optical star coupler, col 3 lines 40-59];

receiving one of the plurality of **substantially** similar sets of optical signals at a plurality of tunable filters associated with a single output link (i.e.: multiplex) from a router [Acampora, tunable optical filters, col 3 lines 17-40; scheduled time division multiplexing, col 4 lines 18-col 5 line 21; gateway node, col 3 lines 60-67];

However Acampora does not explicitly detail

“processing one of the optical signals received having primarily a first wavelength using a first tunable filter of the plurality of tunable filters tuned to the first wavelength;

tuning a second tunable filter of the plurality of tunable filters to a second wavelength while the first tunable filter processes the optical signal having primarily the first wavelength; and

communicating the optical signal having primarily the first wavelength toward the output link associated with the plurality of tunable filters.”

In the same endeavor, Graves discloses

processing one of the optical signals received having primarily a first wavelength using a first tunable filter of the plurality of tunable filters tuned to the first wavelength; tuning a second tunable filter of the plurality of tunable filters to a second wavelength while the first tunable filter processes the optical signal having primarily the first wavelength [Graves, 0184,0202,0203]; and

communicating the optical signal having primarily the first wavelength toward the output link associated with the plurality of tunable filters [Graves, wavelength filters, 0184]

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the wavelength filters with first and second wavelengths as taught by Grave into the Acampora's apparatus in order to utilize the multiplexing and aggregation processes. Doing so would provide a cost-effective to install and operate, and yet sufficiently flexible and scalable to enable service provider to keep in pace with the growth in demand for new services on the network [Graves, 0044].

5. As per claim 59, Acampora-Graves disclose tuning a second tunable filter of the plurality of tunable filters to a second wavelength comprises at least **substantially** completing tuning of the second filter before the first filter completes processing of the optical signal having primarily the first wavelength as inherent feature of different wavelength filters [Acampora, col 3 lines 17-40; col 7 lines 27-67; Graves, 0184].

6. As per claim 60, Acampora-Graves disclose **substantially** communicating the optical signal having primarily the first wavelength; and **substantially** rejecting optical signals received from the star switching fabric having primarily wavelengths other than the first wavelength [Acampora, optical star coupler, col 3 lines 40-59];

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7. As per claim 61 Acampora-Graves disclose after processing the optical signal having primarily the first wavelength, receiving another set of **substantially** similar optical signals; and processing one of the another set of optical signals received having primarily the second wavelength using the second tunable filter of the plurality of tunable filters tuned to the second wavelength [Graves, 0184,0202,0203].

8. Claim 62 contains the similar limitation set forth in claim 58. Therefore claim 62 is rejected for the same rationale set forth in claim 58.

9. As per claim 63, Acampora-Graves disclose at least **substantially** completing tuning of the second optical transmitter before the first optical transmitter completes generation of the optical router signal having primarily the first wavelength as inherent feature of wavelength filters.

10. As per claim 64, Acampora-Graves disclose after generating the optical router signal having primarily the first wavelength at the first optical transmitter, generating an optical router signal having primarily a second wavelength at the second optical transmitter tuned to the second wavelength as inherent feature of wavelength filters.

11. As per claim 65, Acampora-Graves disclose In a router comprising a plurality of line cards coupled to a star switching fabric, a method of routing optical signals, comprising:

receiving at a first line card a first optical packet comprising a payload and having a first duration [Graves, the access line cards, 0142; duration, 0154];

generating, based on the first packet, an optical router packet comprising the payload and having a second duration shorter than the first duration, the optical router packet having a first wavelength [Acampora, different wavelengths, 7 lines 27-67];

communicating the optical router packet to a star switching fabric [Acampora, optical star coupler, col 3 lines 40-59];

communicating the optical router packet from the star switching fabric to each of a plurality of tunable filters each associated with a separate output link from the router [Acampora, tunable optical filters, col 3 lines 17-40; scheduled time division multiplexing, col 4 lines 18-col 5 line 21; gateway node, col 3 lines 60-67]; and

communicating a control signal to at least a selected tunable filter associated with a communication path to a destination element, the control signal operable to cause the selected tunable filter to accept the optical router packet and to facilitate communicating at least the payload of the optical router packet toward the destination element [Graves, control information, 0189,0191].

12. As per claim 66, Acampora-Graves disclose the payload and having the first duration; and communicating the output optical packet from the router toward the destination element [Acampora, duration, col 4 lines 17-67].

13. As per claim 68, Acampora-Graves disclose In a router comprising a plurality of line cards coupled to a star switching fabric, a method of routing optical signals, comprising:

receiving at a first line card a plurality of optical packets each comprising a payload and an identifier of a destination element [Graves, plurality of users 0047; a virtual circuit identifier, 0035];

generating an aggregated frame comprising an identifier of the destination element and at least the payloads of each of the plurality of optical packets [Graves, aggregation and a virtual circuit identifier, 0035];

communicating the aggregated frame to a star switching fabric [Acampora, optical star coupler, col 3 lines 40-59];

communicating the aggregated frame from the star switching fabric to each of a plurality of tunable filters each associated with a separate output link from the router [Graves, wavelength filters, 0184]; and

communicating a control signal to at least a selected tunable filter associated with a communication path to the destination element, the control signal operable to cause the selected tunable filter to accept the aggregated frame and to facilitate communicating at least the payloads of the aggregated frame toward the destination element [Graves, control information, 0189,0191].

14. As per claim 69, Acampora-Graves disclose receiving the aggregated frame from the selected tunable filter; generating from the aggregated frame a plurality of output

optical packets each comprising one of the payloads of the input optical packets and an identifier of the destination element; and communicating the plurality of output optical packets from the router toward the destination element.

15. As per claim 70, Acampora-Graves disclose In a router comprising a plurality of line cards coupled to a star switching fabric and at least one express lane coupled to the star switching fabric, a method of routing optical signals, comprising:

receiving at a first line card in a router an input optical packet [Graves, the access line cards, 0142];

converting at least a portion of the input optical packet received at the line card to an electrical signal [Graves, 0028];

generating, based at least in part on the electrical signal, an optical router signal having a first wavelength; receiving at an express lane in the router an express optical packet having a second wavelength [Graves, 0184,0202,0203];

communicating the optical router packet and the express packet to a star switching fabric [Acampora, optical star coupler, col 3 lines 40-59]; communicating the optical router packet and the express packet from the star switching fabric to each of a plurality of tunable filters each associated with a separate output link from the router [Graves, express routing, 0103]; and

communicating a control signal to at least a selected tunable filter associated with a communication path to a destination element associated with the express optical packet, the control signal operable to cause the selected tunable filter to tune to the

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wavelength of the express optical packet and to facilitate communicating the express optical packet toward the destination element **without** converting the express optical packet to an electronic format [Graves, control information, 0189,0191; no conversion, 0091].

16. Claim 71 contains the similar limitation set forth in claim 70. Therefore claim 71 is rejected for the same rationale set forth in claim 70.

17. As per claim 72 Acampora-Graves disclose a splitter [Acampora, col 1 lines 60].

18. As per claim 73 Acampora-Graves disclose a splitter separate an input optical signal into 16 or more output signals as inherent feature of splitter.

19. As per claim 74 Acampora-Graves disclose a different wavelength [Acampora, different wavelengths, 7 lines 27-67]

20. As per claim 75 Acampora-Graves disclose an optical amplifier [Graves, 0108]

21. As per claim 76 Acampora-Graves disclose a plurality of receivers [Graves, 0199]

22. As per claim 77 Acampora-Graves disclose a plurality of tunable filters [Acampora, col 3 line 26]

23. As per claim 78 Acampora-Graves disclose a time division multiplexed frame [Acamp[ora, col 4 line 64]

24. As per claim 79 Acampora-Graves disclose TCP and IP packets [Graves, 0036]

25. As per claim 80 Acampora-Graves disclose a round robin scheduling algorithm [Acampora, scheduling, col 5 line 1]

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26. As per claim 81 Acampora-Graves disclose combining the packets and converting the singal [Graves, 0203]

27. As per claim 82 Acampora-Graves disclose combining the packets into aggregated frame for the star fabric [Acampora, col 7 lines 27-67]

28. Claims 83-91 contain the similar limitation set forth in claims 71-76,78-80.

Therefore claims 83-91 is rejected for the same rationale set forth in claims 71-76,78-80.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thong Vu*, whose telephone number is (571)-272-3904. The examiner can normally be reached on Monday-Thursday from 6:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Andrew Caldwell*, can be reached at (571) 272-3868. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval IPAIRI system. Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thong Vu
Primary Examiner
Art Unit 2142

